

experimenter can evoke spirits the most congenial. Oblivious to the small frets of the day, he is cheered by gentle influences unknown to grosser minds. His perception is sharpened, by exact studies, to the better comprehension of the nature of morbid processes and of the *modus operandi* of medicines. He has a key for solving problems of personal and public hygiene; a light, to be got nowhere else, for an early detection of some diseases, and sound direction to guide him in their cure.

Clinical Lecture.

ABDOMINAL SURGERY.

Two Lectures Delivered at the Jefferson Medical College,

BY J. EWING MEARS, M. D.

Lecturer on Practical Surgery and Gynecology.

REPORTED BY WILLIAM H. MORRISON, M. D.

LECTURE I.

GENTLEMEN, I do not think it necessary to offer any apology for the occupation of the time in addressing you on the subject of abdominal surgery, since the great advances which have been made in this direction have attracted the attention of surgeons over the entire world. As most of the progress has been made within the last fifteen or twenty years, the subject is comparatively new. The operation of Ephraim McDowell, in 1809, upon Mrs. Crawford, opened the door, as it were, into the peritoneal cavity, through which surgeons have entered and have attacked the various organs occupying that cavity. It is true that operations upon the uterus had been performed long before this. The Cæsarean section, with which you are familiar, is said to derive its name from Cæsar, who is reported to have been delivered by abdominal section and section of the uterus. As Cæsar lived one hundred years before Christ, of course this fact, if true, makes the operation a very old one. Within a very few years the methods of operating have been much improved, so that, instead of having a mortality rate of nearly, if not quite, one hundred per cent., it has been reduced to 56-57 per cent.

This is due to the improvement made in the operation by Porro, of Italy, who, on May 21st, 1876, performed the first premeditated operation, in which he removed the entire uterus. His modification consisted in the removal of the uterus, and the procedure was based upon reasoning and experimental vivisection, on the knowledge of the causes of the fatality to the mother in the old operation, and, finally, on the belief that a woman who, by reason of contracted pelvis or other cause, could not be

delivered in the natural way, should be relieved of subsequent pregnancies, which could be accomplished by removal of the uterus. In Porro's operation section of the uterus was performed, the foetus removed and then the uterus. This operation was modified by Müller, who removed the uterus and its contents entire. In this way, the risk of the escape of fluids from the uterus into the cavity of the peritoneum was avoided. Removal of the uterus had been suggested some time previous to the operation by Porro. Cavallini, of Florence, in 1768, had suggested it. Michaelis, of Marburg, in 1809, contended that as it could be done in animals, and as the organ was worse than useless to the woman, who was thus subjected to great risks, the question of amputation might be entertained. Blundell, in 1828, removed cancerous uteri per vaginam, and also removed the uterus by abdominal section in animals, without fatal results. Storer, of Boston, in 1869, in order to save the life of a patient, removed a pregnant uterus, the operation having been commenced to remove what was supposed to be an ovarian cyst.

To compare the mortality of the old operation with that of the operation as now performed, it will simply be necessary to state that for the hundred years preceding 1884 not one successful case of Cæsarean section had been performed in the hospitals of Vienna. From 1787 to about the same time a similar mortality had attended the operations performed in the Paris hospitals. In Italy, of sixty-two cases operated upon, fifty-nine died.

The splendid results achieved in this operation, as well as in those upon other organs of the abdomen, have been chiefly, if not entirely, accomplished through the introduction of antiseptic methods in the treatment of wounds, and all that the use of these methods imply.

Operations on the *uterus* have been performed not only for the purpose of removing its contents in the pregnant condition, but also for the removal of tumors involving the substance of the organ. These tumors are usually of a fibroid character and occupy the external, middle or internal portions of the walls of the uterus, forming sub-peritoneal, mural and sub-mucous fibroid growths. The operations have been performed with such varying success, and the mortality has been so great, as to render it more unfavorable than those performed upon other portions of the uterus and its appendages.

I need not detain you at this time with any extended remarks upon the operation for removal of diseased *ovaries*. These operations

have been performed so often that, no doubt, you are familiar with the methods and their results. It will be interesting simply to record the experience of one operator, Sir Spencer Wells, who has performed ovariectomy over one thousand times, and who, by this operation, it is asserted, has contributed not less than twenty thousand years to the life of the women operated upon, and who has saved nearly nine hundred of the cases on whom it has been performed.

After the uterus and its appendages, the next organ attacked by the surgeon was the *spleen*. Extirpation of the spleen was first performed in 1826, by Quittenbaum, of Rostock. Küchler, of Darmstadt, performed a similar operation in 1855. From 1826 to 1881, thirty cases were recorded, of which nine recovered. The great mortality which has attended the operation of splenectomy is asserted not to be due so much to the operation itself, but to the effect upon the patient from the removal of an organ the function of which is so closely associated with the transformation of the white blood corpuscles into the red. It has been supposed that the patients who died after operation for the removal of the spleen, in whom the function of the organ had not been entirely destroyed by disease, have died as a result of the sudden interference with the function of this organ. In some instances, it has been observed that after the removal of the spleen swelling of the thyroid gland has occurred. From this fact, it has been inferred that the function of the spleen has been performed vicariously by this body. In the cases in which the entire organ was involved, death has been attributed to the effect of the operation rather than to interference with the function of the organ, as the system of the patient is supposed to have been accustomed to the loss of the organ by reason of the disease which had so long involved it.

Operations upon the liver have been limited to the evacuation of abscesses and hydatid cysts. The old method consisted in section of the overlying tissues to the peritoneum, stuffing the wound in order that adhesions should form between the peritoneum and the surface of the liver, and then incision of this membrane and of the wall of the abscess in the liver. In this way, the contents of the abscess were prevented from entering the peritoneal cavity. Later, puncture of the cyst with the aspirating needle has been performed, with the removal of the purulent collection and also the fluid contained in hydatid cysts.

Thudichum suggested, in 1859, operation on

the *gall bladder*, for hepatic colic and for obstruction occurring in the duct. The first operation, however, was performed in 1867, by Dr. John S. Bobbs, of Indianapolis, Indiana, who opened the gall bladder, removed fifty gall stones, sutured the opening in the sac, returned it to the abdominal cavity and closed the incision. In 1878 Dr. Marion Sims performed a similar operation, removing sixty-six stones and twenty-four ounces of bile. He, however, formed a biliary fistula by sewing the edges of the sac to the abdominal incision. The operation of cholecystotomy, opening the gall bladder, as well as cholecystectomy, removal of the gall bladder, have become established operations in surgery, and have been performed with success in a number of instances.

Extensive surgical operations upon the *stomach* have been performed. Gastrostomy, the making of a fistulous opening into the stomach, for the purpose of feeding a patient, has been performed in a number of instances. Gastrotomy, the operation for opening the stomach for the removal of foreign bodies or for dilatation of the cardiac or pyloric orifice, is, however, of rather recent origin. In a number of cases, it has been performed for the removal of masses of hair and foreign bodies ingested by the patients. Pylorotomy is an operation which has been performed for the removal of the pyloric portion of the stomach when this has become the seat of disease. After gastrotomy dilatation of the orifice may be performed; the index finger, and if necessary, the middle and ring finger, are introduced and the orifice forcibly stretched. It is necessary to say that this operation is only admissible in stenosis of the pylorus due to benign growths. In carcinomatous affections, it should not be performed.

Excision of the pyloric portion of the stomach for disease has been performed, the edges of the wound approximated and sutured, and in this way the continuity of the stomach and intestine is restored.

Operations upon the *pancreas* have also been performed by the surgeon, particularly for cystic disease involving the duct of the pancreas. This operation consists in opening the abdominal cavity, evacuating the cyst and stitching the edges of the wound to the abdominal incision. The cavity of the cyst may then be treated by drainage and injections.

Operations upon the *intestinal canal* have been performed for many years, such as colotomy, to relieve obstruction by the formation of an artificial anus, but the recent operations have been much more extended, and

include the opening of the abdominal cavity to relieve strictures of the intestine, to suture gunshot wounds, and to remove foreign bodies. In 1843, the late Professor S. D. Gross performed a number of experiments on animals in order to ascertain which was the best form of suture to be employed in cases of wounds of the intestine. Recently Dr. Parkes, of Chicago, performed a number of experiments upon dogs with the view of ascertaining the results following gunshot wounds of the abdominal cavity, involving the intestines. These animals were subjected to gunshot wounds and the abdominal cavity opened. Wounds of the intestines were sought for and sutured, and the cavity cleaned and closed. The animal was killed after repair had taken place, and examination made to determine the condition of the parts. If death occurred immediately after the operation, examinations were also made, to determine the cause of death. It is now the opinion of surgeons, from the results of the experiments which have been made, that in cases of gunshot injuries of the abdomen, it is proper, when the symptoms indicate wounding of the intestine, to open the cavity and seek for the wounded intestine and close the openings with sutures. It is also considered advisable, in cases of suspected stricture of the intestine, to open the cavity, seek for the stricture and, if possible, relieve it. In the remarkable instance reported by Kœberle, six feet of the intestine were removed, the ends sutured, thus restoring the continuity of the canal, and the patient recovered, showing that this operation can be performed with success.

The abdominal cavity has also been opened by the surgeon for the purpose of removing growths connected with the *mesentery* and *omentum* and for the ligation of the abdominal vessels in the case of aneurism.

Finally, it has been regarded as proper to open the cavity and introduce a drainage tube in cases of suppurative peritonitis. This operation has been done a number of times with success. The cavity has been treated as an abscess cavity. After the drainage tube has been introduced, antiseptic solutions have been thrown in, and in this way the cavity cleansed. I have performed this operation twice. In the first case, which occurred twelve years ago, I opened the abdominal cavity and washed it out by introducing antiseptic solutions through a catheter. The patient recovered and lived some ten years. Recently I was called in consultation, and performed the operation for the second time, in a case of suppurative peritonitis. The abdominal cavity

was opened and a glass tube similar to that used in ovariectomy was introduced. To this was attached a rubber tube which was conveyed to a receptacle under the bed, the end of the tube being immersed in liquid to prevent the entrance of air into the cavity. Antiseptic precautions were employed throughout the operation. The cavity was washed out with a weak solution of carbolic acid, and free drainage obtained.

At the next lecture, I shall discuss the various operations which have been performed for the relief of affections of the kidneys.

Original Communications.

A REPORT OF SIX HUNDRED CASES OF LABOR.*

BY HENRY LEAMAN, M.D.,

(Class of 1864.)

Of Philadelphia, Pa.

From the brief notes I have preserved of the last six hundred cases of labor which I have attended I have taken the material for the report which I now present to you, which I hope will at least have the merit of bringing some important topics before us for discussion.

The average duration of each labor was fourteen hours and forty minutes. The average duration of first labors, which numbered one hundred and eighty-seven, was twenty-two hours. Of these, there were five recorded of over thirty years of age, with an average duration of twenty-five hours.

The difference of opinion that exists on the duration of labor doubtless arises, as has been stated, from the difficulty in determining the limit of the first stage. There is a difference in women as to the accuracy with which they record their internal sensations. Some are cognizant of the slightest nerve-impression, and can state it with exactness; others are dull and only aroused by a decided sensation, and are inaccurate in their report.

Multiparæ are very apt to be inaccurate in their statements as to the time of the onset of the first stage. They will very frequently reply, when questioned, that they have had slight pains for several days, but have taken no account of them. Primiparæ are more certain in their information, as they are in a state of expectancy.

The length of labor has been counted, in all cases, from the first onset of dilating pain, which is generally felt in the lumbar, supra-

* Read before the Philadelphia County Medical Society, September 23, 1885.

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LECTURE II.

OPERATIONS ON THE KIDNEY.

GENTLEMEN, at my last lecture I gave you a résumé of the operations which have been performed upon the various organs contained within the abdominal cavity, reserving for to-day the consideration of those done upon the kidney. I propose to take up these operations in a systematic order, first reviewing the surgical anatomy of this organ, then the different diseases for which operations have been performed, and finally the different methods of operation.

I assume that most of you are sufficiently advanced in your anatomical studies to be familiar with the anatomy of the kidneys. They are two in number, placed along the vertebral column, and extend from the eleventh rib to nearly the crest of the ilium. They measure from four to five inches in length, two inches in breadth and one inch in thickness, and are usually enveloped by masses of fat, and held in position by attachments to the large blood vessels, the aorta and ascending vena cava, branches of which are distributed to them. A dissection of the kidney will show that it lies behind the peritoneum, and that it may be reached by two methods of operation, one through the abdominal cavity, known as the ventral method, and the other through the lumbar or loin region, known as the lumbar method. In order to reach the kidney through the cavity of the abdomen, it is necessary, as can be readily seen from the models and the dissection before you, to open the abdominal cavity and push aside the overlying intestines, and when the posterior wall of the cavity is reached, to divide the layer of peritoneum behind which the kidney is placed. By this method the two layers of peritoneum are divided and the cavity of the abdomen opened, thus subjecting the patient to the dangers resulting from exposure of this structure of this large cavity. The conditions which are liable to follow operations on the kidney through the abdomen are, shock, peritonitis, septic peritonitis, pulmonary embolism, primary hemorrhage and uræmia.

In the operation through the lumbar region, the kidney can be reached without

opening the peritoneal cavity. The dissection which I have here will show you the structures which must be divided in order to reach the organ by this route. The subject being in a prone position, with the vertebral column arched, the kidney is forced toward the surface, and this position will develop the region in which it lies. In the dissection, the first structure reflected is the integument, next the superficial fascia, then the deep fascia, then the aponeurosis of the latissimus dorsi and the external oblique, next that of the internal oblique and the transversalis muscle, and then the transversalis fascia. This exposes the kidney in its position. It is necessary, however, to call your attention to the three layers of the vertebral aponeurosis of the transversalis muscle, which embrace, between the posterior and middle leaflets, the erector spinæ mass, and between the middle and anterior leaflets, the quadratus lumborum muscle. Near to the bodies of the lumbar vertebræ rests the psoas magnus muscle, and upon the psoas magnus and quadratus lumborum muscles is placed the kidney, surrounded by a mass of fat. Sometimes this fat is absent, as in this subject. In other instances the mass of fat surrounding the kidney measures one or two inches in thickness. In performing the lumbar operation the incision should be made along the border of the erector spinæ mass, dividing the structures which have been observed in the dissection, and in this way reaching the kidney without the section of any important muscular structures, blood vessels or nerves. The causes of death which have followed the lumbar operation are stated to be, shock, exhaustion, septicæmia, pyæmia, anuria, and secondary hemorrhage from the stump of the kidney.

The morbid conditions which require operative treatment are displacement of the kidney, forming what is described as the floating kidney, or when it becomes the seat of pain, the painful floating kidney; dropsy of the kidney, designated as hydronephrosis; suppurative lesions, as pyonephrosis, abscess in the substance of the organ, pyelitis or inflammation of the pelvis of the kidney, simple or due to the presence of a stone, constituting in the latter case calculous pyelitis; cysts of the kidney occurring in its substance; tubercular kidney; tumors of the kidney, either benign, chiefly adenomata, or malignant, such as carcinomatous tumors or semi-malignant growths, as sarcomata, and finally ureteral fistula.

The operations performed upon the kidney are designated as nephrorrhaphy, or suture of the kidney; nephrotomy, or section of the

kidney; nephrectomy, or excision of the kidney, and nephro-lithotomy, or section of the otherwise healthy kidney for the removal of a stone. These various operations and the conditions demanding them have been carefully studied and tabulated by Professor S. W. Gross, a paper upon which subject was read by him before the American Surgical Association at its last meeting. In this paper he has collected 233 cases of extirpation of the kidney, with 129 recoveries and 104 deaths, a mortality of 44.63 per cent. He has further tabulated the mortality in each of the conditions described. The general results of his investigations have shown that of the two operations, the lumbar is safer than the ventral operation, and "that primary extirpation of the kidney is indicated in sarcoma occurring in adults, benign growths at any age, the early stage of tubercular disease, rupture of the ureter occurring during operation and in ureteral fistula. Nephrectomy should not be resorted to as a primary operation in painful floating kidney, in calculous pyelitis in a healthy kidney, in hydronephrosis, in cysts, in suppurative lesions and in injuries of the kidney and ureter. Nephrectomy should never be performed in sarcoma in children, nor in carcinoma at any age, unless in a very early stage, and finally, it should not be performed in advanced tubercular disease."

Taking up the different conditions in order, I shall first speak of the displacement of the kidney known as painful floating kidney. As a result of severe exertion, as in lifting heavy weights, or during parturition, the kidney may become displaced and its attachments to the large vascular trunks of the abdomen become elongated and the organ floats in the abdominal cavity. This elongated attachment is described as the mesonephron. On making external examination the surgeon will frequently be enabled to seize the organ and determine its outline, and thus arrive at an accurate diagnosis as to the nature of the trouble. In some instances the floating kidney has been mistaken for a solid tumor of the ovary, and abdominal section performed for the removal of the supposed tumor. When the diagnosis has been made, and the conditions of pain are such as to warrant operative interference, the operation of nephrorrhaphy may be performed. The kidney is to be exposed by the lumbar incision, extending from the eleventh rib to the crest of the ilium, and if necessary, the straight incision may be enlarged by a curvilinear incision along the lower border of the twelfth rib. When the incision has been completed, the kidney should be forced back into posi-

tion by pressure through the abdominal parietes. The organ being exposed, it is seized, and by means of sutures introduced through its capsule, attached to the edges of the lumbar incision. The wound is then closed, with the expectation that adhesions will occur and the kidney be retained in its normal position.

After the operation of nephrorrhaphy, it sometimes happens that the kidney again becomes displaced. In 18 of these operations reported by Professor Gross in the paper referred to, there was but one fatal case, with four entire failures and three partial failures, making seven failures in the 18 cases. It is regarded as proper to perform nephrorrhaphy as a primary operation in painful floating kidney, and if, as in a recent case operated on by Professor Agnew, the operation fails to secure the kidney in place, nephrectomy should then be performed.

Suppurative lesions, as pyonephrosis, pyelitis and abscess, are conditions for which the kidney has been extirpated. It is, however, now regarded as proper in these cases to make a lumbar incision, evacuate the purulent collection and drain the cavity by the introduction of a drainage tube. Fistulous tracks frequently follow this operation, which may afterward require operation. In some instances, the kidney entirely disappears, by reason of the continuance of the suppurative action, leaving but a shell behind, and in these cases, if the fistulous tracks remain permanent, nephrectomy can be resorted to, and in that way the remaining structure removed.

Hydronephrosis, or dropsy of the kidney, is another affection for which nephrectomy has been performed. Recent investigations have, however, shown that in this condition, incision with drainage is the preferable operation. Of the cases reported by Professor Gross, 25 were cases in which incision with drainage was performed. Of this number, four died, making a mortality of 16 per cent. Fourteen of these operations were by the ventral incision, and of this number three died. Eleven were by the lumbar incision, and of this number one died. Out of twenty operations, urinary fistula occurred in eleven. As a preliminary procedure in the conditions just mentioned, aspiration may be resorted to, in order to evacuate the fluid. In cysts of the kidney, nephrectomy has also been performed. Of fifteen of these cases seven died. In all these cases the operation was performed by the ventral incision. In seven instances nephrotomy was performed, with no deaths.

In tubercular kidney, nephrectomy has also been performed, but it is now a question claiming the attention of surgeons, whether

or not this operation is proper, by reason of the fact that it is difficult to ascertain the limitation of the disease to one kidney. If the disease is recognized in its early stage, nephrectomy may be performed with a prospect of success. The operation is not to be resorted to in the advanced stages.

Nephrectomy has also been performed for removal of a calculus in the kidney. It is now recognized that the proper operation in these cases is nephro-lithotomy, of which twenty-one cases have been reported. In this operation, the kidney is exposed and its structure divided with a knife, or preferably with Paquelin's cautery, the stone extracted and the surfaces apposed. Union takes place and the function of the kidney is restored, which may seem remarkable after an injury so severe in character as that inflicted by the operation.

Nephrectomy has been performed for the relief of tumors of the kidney, both benign and malignant, but the mortality attending these operations has been such as to limit the procedure to certain conditions and periods of life. Experience has shown that nephrectomy should not be performed in carcinoma, especially in an advanced stage, or in sarcoma in children, but it may be performed in sarcoma in adults.

Ureteral fistulæ occur as a result of injury of the ureter during operations for the removal of the ovaries or uterus, and as the result of gunshot wounds, and in these cases the fistula may open into the vagina or uterus or upon the abdominal wall. The practice has been to attach the walls of the ureter to the abdominal incision, thus producing a permanent ureteral fistula. In these cases the annoyance to the patient is sometimes so great as to justify the surgeon in resorting to nephrectomy. If the ureter is injured during operations on the ovaries or uterus, it is deemed advisable not to perform nephrectomy as a primary operation, but to simply establish a fistula and, if the operation becomes necessary at some subsequent time, perform nephrectomy.

—In a severe case of *gastralgia* without any assignable cause, occurring in a girl aged 19, Prof. DaCosta directed that she should take no food except milk, from three pints to two quarts per day; in addition two soft boiled eggs might be taken. Lime water to be added to the milk, if necessary. Fowler's sol., gtt. iij ter die, to be increased to gtt. v. For the pain give—

R. Opii,	gr. $\frac{1}{4}$	
Ext. cannab. indic.,	gr. $\frac{1}{8}$	M.
Ft. chart. j.		

Original Communications.

THE PRACTICAL WORKING OF LAWS REGULATING MEDICAL PRACTICE IN THE UNITED STATES.

ANNUAL REPORT TO THE AMERICAN ACADEMY OF MEDICINE,

BY RICHARD J. DUNGLISON, A.M., M.D., OF PHILADELPHIA, PA., AND HENRY O. MARCY, A.M., M.D., OF BOSTON, MASS., COMMITTEE.

Read at the Annual Meeting at New York, October 29th, 1885.

So little change has taken place within the twelve months which have elapsed since the last annual meeting of the American Academy of Medicine, in regard to the legislative restriction of the practice of medicine, that your committee might, in a few brief sentences, dismiss the subject by a statement of the actual work accomplished in this direction. The honest efforts of medical men and others, during the past year, to accomplish creditable results in the States not already under the influence of practical legislation for the repression of quackery, have been unabated, but in several cases disappointment has been the only issue of their labors. Indiana and North Carolina have passed laws regulating the practice of medicine, but, so far as known, no changes have been made in the laws of other States. Your committee have entered into correspondence with medical gentlemen in the various States and Territories, with a view of eliciting an expression of their opinion as to the efficient or inefficient operation of laws now in force, or as to the need of further legislation upon the subject; believing that a comprehensive view may in this way be obtained of the progress of medical legislation in near and distant regions, of the obstacles with which the due enforcement of the law must contend, and of the legislative restrictions that may yet be needed to protect the public from quackery and pretension. They desire to express to the gentlemen who have responded to their inquiries their grateful appreciation of their kind interest in thus furthering the objects for which the committee was originally instituted.

Dr. Alfred Ludlow Carroll, Secretary of the State Board of Health of New York, refers to the law of 1884, now in operation in that State, in the following language:—

"The act then passed certainly has not been efficacious in excluding from our profession grossly incompetent and disgracefully uneducated men. It admits to registration all who have diplomas from 'chartered medical colleges,' and the laxity of Legislatures in granting charters to almost